

Association for Information Systems AIS Electronic Library (AISeL)

ECIS 2008 Proceedings

European Conference on Information Systems
(ECIS)

2008

Testing Some Myths About IT Outsourcing: A Survey of Australia's Top 1000 Firms

Anne Rouse

Deakin Business School, anne.rouse@deakin.edu.au

Follow this and additional works at: <http://aisel.aisnet.org/ecis2008>

Recommended Citation

Rouse, Anne, "Testing Some Myths About IT Outsourcing: A Survey of Australia's Top 1000 Firms" (2008). *ECIS 2008 Proceedings*. 80.

<http://aisel.aisnet.org/ecis2008/80>

This material is brought to you by the European Conference on Information Systems (ECIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2008 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

TESTING SOME MYTHS ABOUT I.T. OUTSOURCING: A SURVEY OF AUSTRALIA'S TOP 1000 FIRMS

Rouse, Anne, Deakin Business School, Deakin University, 70 Elgar Road, Burwood, 3125
Victoria, Australia, anne.rouse@deakin.edu.au

Abstract

This study examines the extent to which surveyed outcomes of IT outsourcing supported several commonly-argued propositions. Following confirmatory factor analysis, eight measures of success were used: access to skilled staff, technology benefits, economies of scale, cost reductions, strategic benefits, technical service quality, capacity to concentrate on core business, and overall satisfaction/value. The analysis produced some surprising findings. Some widely-promoted benefits of outsourcing were reported by most respondents, but other benefits that have been similarly promoted (such as cost savings) were reported by only a minority of respondents. There were no differences in success outcomes between medium-sized (<500 employees), large (500 to 1000 employees), and very large (1000+ employees) organizations. There were some minor differences between government agencies and firms from the private sector, but no differences for key outcomes. Contrary to findings from case study research, "selective" outsourcing was no more successful than "total" outsourcing, although "total" outsourcing was uncommon. On the basis of these results, decision makers are urged to be cautious when planning to outsource IT services, and to be critical of claims that they will make substantial savings from outsourcing, or that outsourcing will automatically allow them to refocus more on their core business.

1 INTRODUCTION

In 1993 Lacity and Hirschheim published an influential critique of the mythology associated with IT outsourcing (Lacity and Hirschheim, 1993). Fifteen years later, there is still a shortage of reliable quantitative studies into the outcomes and consequences of the strategy, even though IT outsourcing continues to grow in popularity. By 2004, over 150 IT outsourcing case studies had been published (Willcocks et al., 2006), but there had been few hypothesis-testing studies (Dibbern et al, 2004) particularly since 2000. While case studies provide rich insights into the complexity of IT outsourcing arrangements, they have sometimes produced contradictory findings. Furthermore, they are not statistically representative, and cannot yield information about which findings do, and do not, generalize within the practitioner population. Even when cross-case comparisons have been done, such as those by Lacity & Willcocks (1998; 2001), results have been equivocal. The ratios of success amongst the different sub-categories of cases can tell decision-makers little about their own likelihood of success or risk. Moreover, because it is difficult for researchers to gain access to case study sites that are failing or have experienced severe problems, the published case studies are likely, as a group, to have experienced more positive outcomes than the general population. A scientific discipline progresses by an iterative process of proposing then *testing* theory. So there is a clear need to complement the large number of theory-generating outsourcing studies with quantitative studies that attempt to disconfirm propositions that have been raised.

This paper takes a hypothesis testing view by analysing a survey the author sent to 1000 IT managers and IT Directors. Their organizations were selected from the largest 1600 government and non-government organizations in Australia. The response sample for the survey was larger than many information systems surveys ($n = 240$, or 24%) and the sample made up almost 2/3 of the population it represented, suggesting it would generalize well to that population, and to similar firms in other

western economies. This data set provides a chance to examine, probabilistically, success rates for a number of different outsourcing success dimensions, and so test some of the assertions that are commonly made in the outsourcing literature.

2 HYPOTHESES AND RELATED LITERATURE

This paper reports two sets of analyses. First, the survey data was examined to establish the extent to which implicit hypotheses in the outsourcing literature (e.g. “IT outsourcing is generally successful”) were confirmed when tested empirically.

The outsourcing literature is replete with assertions that outsourcing *may* lead to a range of substantial benefits, including cost savings, redirection of attention to core competence, access to scarce skills, better service, and other strategic benefits. On the other hand, there are substantial numbers of case studies reporting difficulties and potential risks for outsourcing, including unforeseen costs (impacting expected cost savings); loss of organizational memory, and even redirection of managerial attention away from core business (Rouse & Corbitt, 2003; Aubert et. al., 1999; Lacity and Willcocks, 2001; Kern, 1999; Lacity and Hirschheim 1995; 1993). Implicit in the message from consultants and vendors is that the probability of successful outcomes is at least greater than chance (if not “very much greater”). Based on this implicit assumption, and a study of the trade literature, the following hypotheses were derived. They are framed in terms of a relatively optimistic trade view of outsourcing:

- H₁ Outsourcing will be reported as successful in the majority of organizations*
- H₂ The majority of respondents will report some cost savings from outsourcing IT*
- H₃ Only a small minority (<10%) will report that IT outsourcing leads to cost increases*
- H₄ The majority of respondents will report being able to concentrate better on their core business as a result of outsourcing their IT*

The notion of “success” is viewed in this paper as more than simply cost savings, which predominated as the dependent variable used in earlier studies of outsourcing success (e.g. Lacity & Willcocks, 1998). The different facets of success used in the study are considered below.

An important assumption made by the author underlies Hypotheses H₁ to H₄ — that decision-makers who choose to enter into an outsourcing arrangement do so with expectations of at least some measure of success so as to justify the substantial organizational and financial costs involved in introducing outsourcing. That is, they believe that the strategy will, on balance, lead to positive (rather than neutral) outcomes. A neutral outcome cannot be seen as evidence of success, instead it suggests some level of equivocation or uncertainty about the outcomes. This assumption is grounded in the substantial body of research into evaluations of customer satisfaction (Peterson and Wilson, 1992) that has established that, on average, most customers are quite satisfied with their purchases, and mean scores for evaluations are typically above neutral (towards the satisfied end of a multi item evaluation measure).

A number of hypotheses that have been explicitly raised in the IT outsourcing academic and trade literature are also tested in this paper. The background to these is discussed below:

- H₅ There will be differences in success outcomes between public and private sector organizations*
- H₆ Large and very large organizations will experience greater success than medium sized organizations*
- H₇ Outsourcing success outcomes will be positive for selective outsourcing and negative for total outsourcing*
- H₈ Selective outsourcing will lead to greater cost savings, or satisfaction, than total outsourcing*

2.1 Implicit hypotheses about the extent of success in outsourcing

The notion of IT outsourcing “success” is still subject to debate in the academic literature and there is no generally recognized success measure that has well established psychometric properties. The uncertainty is partly because of the prevalence of case studies discussed above. By their nature, case studies cannot provide indications of the extent to which their experiences (successful or otherwise) might generalize beyond the particular case. It is revealing that probably the most widely cited research into IT outsourcing success is Lacity & Willcocks’ (1998) cross comparison of a range of cases they had carried out over time. However, because they had chosen the cases purposively for particular reasons - in the US to disconfirm trade literature reports (Lacity, 1992); and in the UK, to explore success factors for IT outsourcing - these cases cannot be used to generalise to the wider population. Despite this, the findings have been widely cited in the literature to support, for instance, the assertion that selective outsourcing is generally successful (see Willcocks et al, 2006).

Another widely cited study into IT outsourcing success rates is a survey conducted by these authors in the US and Europe, described as a survey of over 1000 companies (Lacity & Willcocks, 2001). However an examination of the response rates reveals that while over 1000 respondents were surveyed in the US, the response in that continent was only $n = 38$ (i.e. less than 4%) indicating a quite atypical sample. To increase numbers, the responses to this survey were combined with a convenience sample of 63 from a similar survey administered in Europe. These two surveys are typical of quantitative surveys published in the literature, in that, with sample sizes of 38 and 63 respectively, the confidence intervals would by necessity be extremely large. As an indicator of the distribution of success in the wider community this study is generally unhelpful.

Other surveys have had similar limitations. Of the quantitative academic surveys conducted to mid 2007, the author found only four in addition to Lacity and Willcocks’ that had more than 50 responses and reported success outcomes in terms of proportions (Willcocks & Fitzgerald, 1994; Karpathiou & Tanner, 1995; Aubert et al, 1999, and Kern, 1999). Another study used success as an outcome but reported only mean scores, which were essentially neutral (Lee and Kim, 1999; 2005). Since the methodologies and DVs used by each study were different, it is not easy to aggregate the findings from these surveys. Willcocks and Fitzgerald (1994) were interested in reports of whether cost savings had occurred in a survey of 76 outsourcers. One third of their respondents were unable to answer, but of the remaining 50 responses, 47% reported likely cost savings of between 5% and 20% of estimated in-house costs. Karpathiou and Tanner (1995) used a range of success measures, including cost savings, in their survey of 152 outsourcers. For their respondents 15% reported “significant” cost savings, 33% reported minimal or no cost savings, while 16% reported increased costs. Aubert et al. (1999) looking at patterns of costs over time found that 49% of their 70 respondents reported increased costs. Kern (1999) reported that the majority of his 67 respondents said they did not achieve the cost savings initially envisaged. Given the conflicting findings, about all that can be said on the basis of these surveys is that while some organizations find IT outsourcing successful, others do not. Again, this is not particularly helpful for decision makers.

2.2 Differences in success outcomes between public and private sector organizations

With the exception of Karpathiou and Tanner’s study (1995), most surveys of IT outsourcing outcomes had largely ignored public sector outsourcing, yet in Australasia and Europe large proportions of IT outsourcing is undertaken by the public sector. This is also likely to be the case in North America. Both Karpathiou and Tanner (1995) and Slaughter and Ang (1996) found that outsourcing was significantly more frequent in the public sector, and in the survey discussed in this paper, the same pattern emerged.

The quantitative evidence about outsourcing success in the public sector is limited, but suggests that public sector outsourcing of IT is frequently unsuccessful (Domberger, reported in CTC Consultants, 1999; Hodge, 1999). However, as those authors only surveyed public sector outsourcing, and as IT

outsourcing represented only a minor element of their research (which covered a large number of services including cleaning, catering, etc) it is not clear whether their findings were typical of IT outsourcing more generally, or whether there is a systematic difference between public and private sector experiences of IT outsourcing.

2.3 Organization size and outsourcing success

The survey analyzed in this paper did not target small organizations, where the notion of “outsourcing” IT is often quite different from that in large organizations. However, there was substantial variation in the size of respondents. This provided an opportunity to explore whether there were systematic differences in outsourcing outcomes between medium, large and very large organizations. There is limited data available on this question to date, though it is possible that satisfaction patterns amongst organizations of different sizes might vary. It could be argued that larger organizations would have more sophisticated management processes that should lead to greater success, or alternatively that medium sized firms were more likely to gain greater benefits from outsourcing because they did not have the capacity to provide specialist services internally.

2.4 Differences in success outcomes for minimal, selective, and total outsourcing

A prevalent view amongst consultants and practitioners is that the problems reported for earlier outsourcing experiences, for example in Lacity & Hirschheim (1993), were due to their being examples of “total” outsourcing. This view can be traced to the work of Lacity, Hirschheim and Willcocks (summarized in Lacity & Willcocks, 1998). Lacity and Willcocks observed that, in the cases they had studied over time, where organizations outsourced more judiciously (i.e., outsourcing less than 80% of their IT budget) cost savings were more frequently reported. They proposed then that “selective” outsourcing would lead to greater cost savings and (in their later 2001 text) other benefits. However, because this proposition grew out of their exploratory case study data, it could not be *tested* by the same case study data (as that would be self-referential). The authors’ argument (2001) that selective outsourcing was a “proven practice” for outsourcing success is perhaps premature as they did not test any of their propositions using a disconfirmatory approach.

3 METHODOLOGY

This study is based on a detailed analysis of survey data gathered by the author as part of a larger study (Seddon *et al.*, 2001). The survey was mailed to the IT Managers/IT Directors of 1000 of the largest 1600 sites in Australia, incorporating both public sector and private sector organizations. These sites would be typical of medium to very large organizations in other western economies.

Creation of the sampling frame involved extensive investigations of commercial lists, business databases and government directories to establish the largest organizations, in terms of revenue and number of employees. The sample consisted of the top 500 sites common to all lists, plus a random sample of 500 of the other 1100 sites and, because of the proportion (63%) of the original population surveyed, is likely to be representative of that population. The survey involved an “omnibus” questionnaire designed to meet a number of varying goals for several organizational participants, and consequently the first (of two waves of the survey) incorporated 109 items. Responses were representative of the sample frame in terms of both size and sector (public vs. private), and there was no relationship between organizational size and sector for the responses. Of the 240 responding organizations, only 6 were not involved in IT outsourcing. Mean annual revenue for respondents was \$AU290 million for medium organizations (with less than 500 employees); \$AU212 million for large organizations (500 to 999 employees) and \$AU1.154 billion for very large organizations. The mean proportion of IT budget outsourced was 28%, but there was wide variation.

3.1 Analysis methods

*Analysis of the **implicit** hypotheses (H_1 to H_4)*

These hypotheses were tested on the basis of 95% confidence intervals around the proportion reporting a positive outcome. Confidence intervals around means were also tested, and gave the same findings, but, because items with different numbers of anchors were used, reporting “proportions positive” provides a clearer picture of the findings. Such testing allows for measurement error.

Testing of the **explicit** hypotheses (H_5 to H_8) was undertaken as follows:

H_5 *There will be differences in success outcomes between public and private sector organizations*

Organizations were categorized as either public or private sector on the basis of their stated business activity category. Differences in outcomes were tested using the Mann Whitney U test, a distribution-free, or nonparametric (and hence more robust) version of the t-test for independent samples.

H_6 *Larger organizations will experience greater success than medium sized organizations*

Organizations were categorized as *medium* (less than 500 IT users), *large* (500-1000 IT users) and *very large* organizations (1000+) on the basis of the number of desktops supported. Data analysis was based on the Kruskal Wallis nonparametric ANOVA. This is a more robust measure than parametric ANOVA as it is not dependent on distribution assumptions. When this test indicated differences, parametric one-way ANOVA was used to obtain details about the post hoc contrasts.

H_7 *Outsourcing success outcomes will be positive for selective outsourcing and negative for total outsourcing, and*

H_8 *Selective outsourcing will lead to greater cost savings than total outsourcing*

The definitions of “selective” outsourcing used in the analysis was that given in Lacity and Willcocks (1998), that is outsourcing of between 20 and 80% of IT budget outsourced. “Total” outsourcing was used to describe organizations with over 80% of their IT budget outsourced. “Minimal” outsourcing involved some outsourcing, but less than 20% of the IT budget.

Initial analysis using 95% confidence intervals was undertaken using *cost reduction* as DV. This allowed comparison with the earlier Lacity and Willcocks’ (1998) study. Additional analysis using all DVs was then performed, using MANOVA and one-way ANOVA. Two banks of items were included, one with 4 anchors, and one with 7 anchors (discussed in the next section). Because the covariance matrices for the 4 and 7 anchor items differed (Box’s M test, $p = .01$) different MANOVA analyses were performed for the 4-anchor and 7-anchor DVs (discussed in the next section).

3.2 Dependent variables

The study uses two banks of items included in the survey (for a total of 27 items) related to perceived consequences and evaluations of IT outsourcing. Survey items were developed from a range of earlier studies, and included 9 items adapted from the measures of outsourcing success reported in Grover, Cheon & Teng (1996). These latter items were measured on a 7 point Likert-like scale. The other 19 items were measured on a 4 point scale with the following anchors: “worse”, “no change” (both generally seen by respondents as negative outcomes) “moderate improvement” and “substantial improvement” (positive outcomes). There was a high level of non response for some of these 4-anchor items, requiring that many be discarded from the analysis.

Based on service marketing theory (e.g. Gronroos, 1984) and the earlier model of outsourcing success developed by Grover et al. (1996) a theoretical model of the DVs making up “success” was proposed. However, this had to be revised when confirmatory factor analysis did not substantiate Grover et al.’s prior findings. Details of the theoretical models investigated are described in Rouse et al. (2001). Confirmatory factor analysis (AMOS) of the 27 items revealed there were 7 dimensions of IT outsourcing success, although two of these (*cost reduction* and *access to skilled personnel*) were represented by only a single item. Later structural equation modeling confirmed that these single items had adequate item reliabilities (.7 and .9 respectively). The resulting success dimensions are listed in Table 1, together with the items making up the measures. Composite reliability was determined from individual one-factor confirmatory factor analysis (CFA) and ranged from .71 (for strategic benefits of outsourcing) to .94 (for outsourcing satisfaction/value). These meet the criterion of .7 generally described as acceptable for exploratory research. CFA also established that measures exhibited both convergent and discriminant validity. Full details of the processes used to establish reliability and validity have previously been published in Rouse et al. (2001). The single item “Outsourcing IT has enabled our organization to refocus on its core business”, which forms part of the *Strategic Benefits* measure in Table 1 was used on its own for the analysis for H₄ as this is a key benefit argued to arise from outsourcing.

There is potential for confusion with the dimension “technical service quality” as it is not related to the notion of technology. This measure is based on business-to-business services marketing theory (Gronroos 1984); postulating that service quality is composed of two dimensions: technical service quality, which relates to the key service benefits sought from the vendor, and “functional service quality”, which relates to “how” services are delivered. The latter was not measured as respondents did not necessarily have direct experience of service delivery. Focus group interviews by Rouse (2002) of 51 informants involved in IT outsourcing were carried out to complement the survey. These had revealed that one of the key dimensions by which outsourcing arrangements were judged by purchasers was whether or not the vendor supplied the promised benefits, including service quality.

4 RESULTS

Table 2 reports the success rates for the dimensions of outsourcing success identified by CFA. The total number of respondents reporting any cost savings was 74 (42%) of the 177 who responded to this question. The responses to the cost reduction outcomes (n = 177) were:

Substantial cost reduction (7%); moderate reduction (35%); no change (36%); cost increase (22%).

The total number of respondents reporting being able to refocus on core business as a result of outsourcing their IT was only 77 (39%) of the 195 who responded to this question. The proportions of respondents reporting on this outcome were:

Strongly disagree (6%); Disagree (2 or 3 on the 7 point scale) (19%); Unsure (25.5%); Agree (5 or 6 on the 7 point scale) (37%); Strongly agree (2%).

Results of Hypothesis Tests

The results of the hypotheses tested are summarised in Table 3:

H₁ was confirmed for two individual facets of IT outsourcing success: *technical service quality* and *access to skilled personnel* where over 50 % of respondents reported positive outcomes. However, overall, only a minority (35.9%) agreed that they were satisfied with the benefits and value for money of their outsourcing arrangement. Hence taken as a whole, the hypothesis was not confirmed. Only minorities reported obtaining *strategic benefits*, *technology benefits* and *economies of scale* from outsourcing their IT. Respondents were least likely to report positive outcomes for *strategic benefits*

where only one quarter responded positively. Further analysis of the data revealed that this was primarily due to the negative responses to the item “Outsourcing IT has enabled our organization to refocus on its core business”.

| <i>Dimension</i> | <i>Items making up the measure</i> | <i>Reliability</i> |
|---------------------------------------|---|------------------------|
| Overall satisfaction/value | <ul style="list-style-type: none"> Overall, our organization is satisfied with the benefits from outsourcing Our organization is satisfied with the performance of our service provider(s) Our organization is satisfied with the value for money of our outsourcing arrangements (all 1 strongly disagree, 7 strongly agree) | .94 |
| Cost reduction | <ul style="list-style-type: none"> [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - cost reduction | .70 (item reliability) |
| Vendor service | <ul style="list-style-type: none"> [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better service [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better match of resource to supply [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to better/more technology [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - better use of in-house personnel [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to services unavailable in-house [Outsourcing IT led to] [worse, no change, moderate improvement, substantial improvement] - access to better/more skills/expertise | .86 |
| Technology benefits of IT outsourcing | <ul style="list-style-type: none"> Outsourcing IT has increased our organization's access to key information technologies Outsourcing IT has reduced the risk of technological obsolescence (both 1 strongly disagree, 7 strongly agree) | .78 |
| Economies of scale | <ul style="list-style-type: none"> Outsourcing IT has provided enhanced economies of scale in technological resources Outsourcing IT has provided enhanced economies of scale in human resources (both 1 strongly disagree, 7 strongly agree) | .72 |
| Access to skilled personnel | <ul style="list-style-type: none"> Outsourcing IT has given our organization access to skilled personnel (1 strongly disagree, 7 strongly agree) | .90 (item reliability) |
| Strategic benefits of IT outsourcing | <ul style="list-style-type: none"> Outsourcing IT has enhanced our organization's IT competence Outsourcing IT has enabled our organization to refocus on its core business Outsourcing IT has increased our organization's control of IS expenses (all 1 strongly disagree, 7 strongly agree) | .71 |

Table 1. Measures of IT outsourcing success derived from confirmatory factory analysis.

H₂ was not confirmed, as only 42% of respondents reported any cost savings from outsourcing. Only 7% of respondent reported substantial cost savings from the strategy. H₃ was not confirmed as 22% of respondents reported cost increases. H₄ was not confirmed as only 39.5% of respondents agreed that they could concentrate more on their core business as a result of outsourcing IT.

| <i>Measure of success</i> | <i>n</i> | <i>n that were positive</i> | <i>% positive</i> | <i>95% confidence interval</i> | <i>Mean Score</i> |
|-----------------------------|----------|-----------------------------|-------------------|--------------------------------|-------------------|
| Access skilled personnel | 197 | 138 | 70.1% | 63-76% | 4.92 |
| Technical service quality | 167 | 104 | 62.3% | 54-69% | 3.01* |
| Cost reduction | 177 | 75 | 42.4% | 35-49% | 2.28* |
| Overall satisfaction/ value | 198 | 71 | 35.9% | 30-43% | 4.15 |
| Economies of scale | 196 | 63 | 32.1% | 26-39% | 4.03 |
| Technology benefits | 196 | 52 | 26.5% | 21-34% | 3.90 |
| Strategic benefits | 196 | 49 | 25.0% | 19-32% | 3.94 |

*on a 4-anchor scale where 2 means “no change”, 3 “moderate improvement”.

Table 2. Success rates for dimensions of IT outsourcing success

| | | | |
|----------------|---|----------------|---|
| H ₁ | Although some benefits of outsourcing (technical service quality and access to skilled staff) were reported by more than 50%, most were not and only 36% reported unequivocal satisfaction/value. | H ₅ | Minimal differences between public and private sector |
| H ₂ | | H ₆ | Size effect not supported |
| H ₃ | | H ₇ | That selective outsourcing is better than total outsourcing was not supported |
| H ₄ | | H ₈ | |

Table 3. Summary of hypothesis outcomes

Public vs. private sector organizations (H₅)

Differences between public and private sector respondents were found for six (of 27) outcomes. Government agencies were more likely to report that they had been able to comply with a mandate to outsource ($p = .01$). They were also more likely to report that they obtained industry or economic development benefits from outsourcing ($p = .01$). It was generally only government agencies that sought these benefits. Government agencies were also more likely to report being able to better rationalize assets as a result of outsourcing ($p = .04$), and were more likely to report having penalties for non performance as a result of outsourcing ($p = .01$). Government agencies were less likely to report obtaining better use of internal staff ($p < .01$), and access to skills not held in house ($p = .02$) as a result of IT outsourcing.

Size of organization (H₆)

There were no differences in the extent of IT budget outsourced between medium, large and very large organizations (i.e., no interaction effect). The only statistical difference across all 27 outcomes were that very large organizations (those with more than 1000 employees) were more likely to report being able to use outsourcing to shift from capital to operating expenses than were medium and large organizations. Very large organizations were also more likely to cite rationalization of assets (Kruskal-Wallis Chi Square = 6.53 (df2) $p = .038$) and wanting to use outsourcing to shift capital expense to operating expense (Kruskal-Wallis Chi Square = 10.87 (df2) $p = .004$).

Outsourcing success outcomes will be positive for selective outsourcing and negative for total outsourcing (H₇) and

Selective outsourcing will lead to greater cost savings than total outsourcing (H₈)

Neither H₇ nor H₈ were confirmed. The MANOVA F test revealed that there was no relationship between extent of outsourcing and the vector of 4-anchor DVs — *cost reduction* plus *technical service*

quality ($p=.536$). Nor were there relationships individually for *cost reduction* ($p=.749$) or *technical service quality* ($p=.605$). For the vector of 7-anchor items, the multivariate F test was significant ($p=.016$) indicating that there was a statistically significant relationship between extent of outsourcing and the vector of *economical/ technological/ strategic/ satisfaction* benefits. The greater the proportion of IT budget outsourced, the more likely were respondents to report successful outcomes for these measures. This represents a small effect, though typically organizational phenomena produce only small to medium effects.

However, the data revealed that this finding was largely due to the fact that organizations with “minimal” outsourcing (that is less than 20% of their IT budget outsourced) reported less *strategic benefits*, *access to skilled staff*, and *economies of scale* from their outsourcing, suggesting there is a threshold beneath which these benefits do not accrue from outsourcing IT. As a result, the difference in outcomes between “minimal” and “selective” outsourcing was statistically significant at the .05 level. The difference between “selective” and “total” outsourcing was not statistically significant.

Using only *cost reduction* as DV (as was typical of earlier research into IT outsourcing) the 95% confidence intervals revealed that the success rate for those engaged in “selective”, “total” and “minimal” outsourcing were all statistically no different from random (i.e. 50%).

5 DISCUSSION

The survey reported here is large in comparison with earlier surveys, and is comprehensive in its coverage. Because of the numbers involved, the statistical power was high ($>.8$) and the sample was representative of the population it came from, so the general failure to confirm expected outsourcing benefits in the sample suggests that such benefits are unlikely to be widespread in similar populations (medium to large firms in western economies).

Most surveyed organizations obtained some benefits from outsourcing their IT, but often at a cost, leading on average to overt dissatisfaction, or ambivalence about the success of the arrangement. The analysis reveals that the likelihood of benefits from IT outsourcing is substantially lower than has been recognized in the IT outsourcing literature to date. Even those areas with generally positive responses (*access to skilled personnel* or *technical service quality*) were not universally experienced, with around a third of respondents failing to obtain benefits. These findings apply even for supposedly less risky “selective outsourcing”. This information is unlikely to have emerged from earlier studies, which, as discussed above, largely involved either qualitative studies or small-scale surveys with no capacity to test hypotheses about the generalizability of success. Nor would the information have emerged from studies which used the Grover et al. outsourcing success scale (1996) as a single-dimension measure of “success”.

The results highlight an important point: outsourcing is a “value for money” arrangement and to consider benefits conferred by outsourcing without looking at the relative costs misses significant aspects of the overall picture. Many earlier studies have promoted outsourcing as a successful strategy on the basis that it produced certain positive outcomes (like access to skills) without considering at the same time what the costs for these outcomes were (both financial and organizational). This study provided an opportunity to consider a wider suite of outcomes, and a summative evaluation (the satisfaction/value for money measure) which takes into account at the same time both the benefits and downsides of the strategy. It is this more comprehensive picture that alerts decision makers to the problems of assuming that outsourcing will, more probably than not, be successful.

5.1 The cost saving myth

The likelihood of obtaining substantial cost savings revealed by the analysis, at 7%, is rare. Yet in many case studies (e.g. those in Lacity & Willcocks, 1998) a search for cost savings has reportedly been the prime motivating force for outsourcing. In the survey described in this paper, while the most

common motivations to outsource were related to accessing skills and technology not held in house, cost savings were still sought by 58% of the respondents. Many of the known risks of outsourcing (like poor estimating, failure to capture all services in the contract, and failure to adequately describe expected service levels) will result in unforeseen costs. It appears from the fact that only a minority (42%) reported cost savings that the likelihood of such unforeseen costs are indeed high, even when the outsourcing arrangement is carefully managed. The concurrent focus group interviews conducted by the author suggested that cost savings of more than 12% are uncommon, and would certainly be considered “substantial”. This finding accords with Hodge’s (1996) meta analysis results.

Despite the general absence of robust studies of IT cost savings, there are several studies in the literature that corroborate the low likelihood of obtaining cost savings, and the reasonable possibility that costs will, in fact, rise. Aubert *et al.* (1999), in a longitudinal study of 70 organizations found that 49% of respondents reported IT costs had increased. Domberger, in a study of 7500 outsourcing contracts (CTC Consultants, 1999) found that while savings for certain simple services like cleaning, garbage collection and hospital services were in the realm of 30%, those for IT services *increased*, on average, by 8%+. Hodge (1999) found that while savings were obtained for simple services (like cleaning, garbage collection), corporate services (which would include IT) involved, on average, an increase of 5%. Thus the findings reported in this paper are consistent with earlier studies.

5.2 The strategic benefits/core business myth

As Table 4 shows, all three of the organizational benefits of IT outsourcing articulated by Grover *et al.* (1996) — strategic, technology and economies-of-scale benefits — had even lower success rates, as did overall evaluations of outsourcing satisfaction/value. In some respects these findings are even more disquieting than those related to cost savings. The fact that economies of scale benefits were not commonly reported is consistent with earlier literature, even though this is a benefit frequently cited by outsourcing proponents. Several of Lacity & Hirschheim’s case studies (1993, 1995) revealed that the argument that vendors can obtain major economies of scale unavailable to the purchaser is not necessarily valid, except perhaps for purchaser organizations with quite small IT functions.

The low proportion of respondents reporting being able to refocus on their core business as a result of outsourcing (H_8) is troubling. This casts into doubt trade literature suggestions that while IT outsourcing may not lead to cost savings, it does allow redirection of organizational attention (particularly managerial attention) to more important core competencies. That is likely to occur when outsourcing is unproblematic, but the data in this paper suggests that problematic outsourcing absorbs more attention (and resources) than it frees up. The result for the “core competency” measure is consistent with case studies — such as those described in Willcocks and Fitzgerald (1994); Lacity and Hirschheim (1993) and Rouse and Corbitt (2003) — that demonstrated that outsourcing IT requires considerably more managerial effort than is generally expected.

5.3 Public vs. private sector outsourcing myths

There were no statistical differences for any of the facets of success between public and private sector respondents, refuting the suggestion that the reason that so many public sector arrangements are unsuccessful is because the public sector is less able to manage outsourcing. The major differences revealed by the statistical analyses were those associated with the philosophical goals of government outsourcing, which tend to include wider industry benefits not sought by private sector organizations, and political mandates. Overall, the findings suggest that public “failures” of government outsourcing arrangements are just more transparent examples of a common experience that will tend to go unreported, except through anonymous surveys. The differences related to *better use of internal staff* and *access to skills not held in house* (where government agencies tended to report such benefits less frequently) can be related to the fact that as a group, government agencies at the time of the survey may not have needed to rely on outsourcing to get good staffing/skills outcomes as much as other

firms. Large government agencies had during the 90s well-developed training and recruitment programs, and tended to have access to a wider range of internal IT skills and technologies than many smaller commercial organizations.

5.4 The selective outsourcing myth

The proposition that selective IT outsourcing is likely to succeed may have reassured many decision makers who viewed their outsourcing strategy as “low risk” because it is selective. The analysis here contradicts this proposition, although it is consistent with another study that was unable to confirm Lacity and Willcocks’ proposition (Lee *et al.*, 2004). One explanation is that the academic literature had, particularly in the early days, a number of examples of organizations that had failed to reap the benefits gained from outsourcing, or that had experienced unexpected negative consequences. Because many of these cases involved large-scale outsourcing, generally of very high proportions of the IT budget, the failures came to be attributed, at least in the trade literature, to the fact that these were “total” outsourcing arrangements. The data from this survey confirms that “total” outsourcing is now relatively rare, however, as with Lee *et al.*’s study, the few “total” outsourcing arrangements in the sample studied here were, as a group, as successful as “selective” outsourcing arrangements.

6 CONCLUSIONS

Despite the method bias involved in any single questionnaire, and the statistical limitations associated with survey sampling, the analysis reported here was carried out on a substantial and representative sample of large successful Australian firms. It is unlikely that such a large pool of successful organizations all employed ineffective management strategies. A more likely interpretation of the findings is that IT outsourcing, involving as it does a complex inter-organizational social system where participant goals only partially overlap, has inherent risks that are only partly mitigated by careful management strategies. In this respect, IT outsourcing seems to share many of the problems of complex systems development, magnified by the additional number of, and potential conflicts between, the stakeholders involved.

The findings send a message of caution to decision makers, many of whom are now rolling over their initial IT outsourcing contracts, sometimes to offshore vendors. Sourcing decisions are now being scrutinized carefully in a climate where corporate governance, and in particular risk management, is receiving increased attention. Yet, although the findings raise concerns, they do not necessarily suggest that IT outsourcing should be avoided. A sizeable minority of purchasers obtained substantial benefits from the strategy, and over a third of respondents indicated that, overall, their IT outsourcing arrangements were unequivocally satisfactory and produced value for money. Instead, the findings in this study suggest that outsourcing of IT needs to be treated as a risky endeavour. Risky undertakings are regularly embarked on by organizations, because high-return strategies necessarily involve substantial risk. But they are entered into, and managed, carefully in recognition of the risks involved.

The findings also support a call for more quantitative and theory testing in future outsourcing research, and for cross-national surveys of substantial enough size to establish the boundaries of existing theory, which has, to date, largely been derived from theory-generating case studies.

7 REFERENCES

- Aubert, Benoit; Patry, Michel, and Rivard, Suzanne. (1999) L'impartation des services informatique au Canada: Une comparaison 1993-1997 in Poitevin, Michel, Ed. Impartition: Fondements et analyses. Montreal: Canada: University of Laval Press, 202-220.
- CTC Consultants (1999). Government outsourcing: What has been learnt? CTC Consultants, Australia.

- Dibbern J., Goles, T., Hirschheim, R. and Jayatilaka, B. (2004). Information Systems Outsourcing: A Survey and Analysis of the Literature. *The DATA BASE for Advances in Information Systems*, 1(4), 6-102.
- Gronroos C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18, 36-44.
- Grover, V., Cheon, M. J., and Teng, J. T. C. (1996). The effect of service quality and partnership on the outsourcing of information systems functions. *Journal of Management Information Systems*, 12(4), 89-116.
- Hodge, G. A. (1996). Contracting out government services: a review of international evidence. Montech Pty Ltd/ Monash University, Melbourne, Australia.
- Hodge, G. A. (1999). Competitive tendering and contracting out: Rhetoric or reality? *Public Productivity and Management Review*, 22(4), 455-469.
- Karpathiou, V. and Tanner, K. (1995). Information technology outsourcing in Australia: Final report of the 1993/1994 RMIT Survey. Melbourne: RMIT University, Department of Business Computing. Available from the Department.
- Kern, T. (1999). Relationships in IT outsourcing: An exploratory research study of a conceptual framework. Unpublished doctoral dissertation. Oxford University, Oxford UK.
- Lacity, M. C. (1992). An interpretive investigation of the information systems outsourcing phenomenon. Unpublished doctoral dissertation. University of Houston, Houston, US.
- Lacity, M. C., and Hirschheim, R. (1993). Information systems outsourcing: Myths, metaphors and realities. Wiley, Chichester, England.
- Lacity, M. C., and Hirschheim, R. (1995). Beyond the information systems outsourcing bandwagon: The insourcing response. Wiley, New York.
- Lacity, M. C., and Willcocks, L. (1998). An empirical investigation of information technology sourcing practices: Lessons from experience. *MIS Quarterly*, 22 (3), 363-408.
- Lacity, M. C., and Willcocks, L. (2001). Global information technology outsourcing: In search of business advantage. Jossey-Bass, NY.
- Lee, J-N, and Kim Y-G. (1999). Effect of partnership quality on IS outsourcing: Conceptual framework empirical validation. *Journal of Management Information Systems*, 15(4): 29-61.
- Lee, J.-N., Miranda, S. and Kim Y.-G. (2004). IT outsourcing strategies: Universalistic, contingency and configurational explanations of success. *Information Systems Research*, 15(2). 110-131.
- Lee, J-N, and Kim Y-G. (2005). Understanding outsourcing partnership: A comparison of three theoretical perspectives. *IEEE transactions on engineering management*, 52(1), 43-58.
- Peterson, R. and Wilson, W. (1992). Measuring satisfaction: Fact and artefact, *Journal of the Academy of Marketing Science*, 20(1), 61-71.
- Rouse (2002). Information technology outsourcing revisited: Success factors and risks. Unpublished PhD thesis. University of Melbourne, Australia.
- Rouse, A. C., Corbitt, R and Aubert, B. (2001) Perspectives on IT outsourcing success in Australia. Proceedings of the Ninth European Conference on Information Systems (ECIS) Bled, Slovenia, June 27- 29.
- Rouse, A. C. and Corbitt, B.J. (2003) The Australian government's abandoned infrastructure outsourcing program: What can be learned? *Australian Journal of Information Systems*, 10 (2), 81-90.
- Seddon, P. B., Cullen, S., Willcocks, L. P., Rouse, A. C. and Reilly, C. T. (2001) Report on IT Outsourcing Practices in Australia 2000: A combined study by Oxford's OXIIM, University of Melbourne, and Deloitte, Touche, Tohmatsu. Department of Information Systems Working Paper, University of Melbourne. Available from Department.
- Slaughter, S. and Ang, A. (1996). Employment outsourcing in information systems. *Communications of the ACM*. 39(7), 47-54.
- Willcocks, L., and Fitzgerald, G. (1994). A business guide to information technology outsourcing . Business Intelligence, London, UK.

Willcocks, L., Lacity, M. and Cullen, S. (2006). Information technology sourcing: Fifteen years of learning . Department of Information Systems Working Paper, London School of Economics and Political Science, London, UK.